

removing any of the first reactant physically adsorbed into the terminated substrate; and

forming a solid thin film having a plurality of major components by chemical exchange or reaction of the chemically adsorbed first reactant and a second reactant by injecting the second reactant into the reaction chamber,

wherein the specific atom is a one of the plurality of major components of the solid film.

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### REMARKS

#### **Summary**

By this Amendment, Claim 1 has been revised, and no other claims have been added to or deleted from the application.

Accordingly, Claims 1-14 remain pending in the application, with Claims 10 and 12-14 having been withdrawn from consideration as being directed to non-elected species.

#### **35 U.S.C. 102/103**

Claims 1-9 and 11 were variously rejected under 35 U.S.C. 102 and/or 103 as being unpatentable over the cited references for the reasons stated at pages 2-6 of the Office Action. However, by this Amendment, Claim 1 has been revised in light of the Examiner's comments appearing at the bottom of page 6 of the Office Action. In particular, the Examiner states:

"The Examiner recognizes Applicant's statements bridging pp. 4-5 that what is intended to be claimed is that the atom used to

uniformly terminate the dangling surface bonds of the substrate is intended as a major component of the film. However, the claims to not require such. ... Therefore, by arguing that the nitrogen of Comizzoli et al. or the hydrogen of Kim et al. contaminates the film, Applicant argues that the nitrogen or hydrogen does form part of the film, and thus meets the limitation of the claims. Accordingly, the rejections are maintained."

By this Amendment, Claim 1 has been revised to clarify that the specific atom is one of the major components of the film, and accordingly, reconsideration of the rejections under 35 U.S.C. 102 and 103 is respectfully requested.


**Conclusion**

No other issues remaining, reconsideration and favorable action upon the claims now present in the application is respectfully requested.

Respectfully submitted,

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## ATTACHMENT "A"

### Additions/Deletions to Claim 1:

1. (Twice amended) A method for manufacturing a thin film, comprising:

loading a substrate into a reaction chamber;

uniformly terminating dangling bonds on the surface of the substrate with  
a specific atom;

chemically adsorbing a first reactant onto the terminated substrate by  
injecting the first reactant into the reaction chamber;

removing any of the first reactant physically adsorbed into the terminated  
substrate; and

forming a solid thin film having a plurality of major components by  
chemical exchange or reaction of the chemically adsorbed first reactant and a  
second reactant by injecting the second reactant into the reaction chamber,

wherein the specific atom is a one of the plurality of major components  
~~[component]~~ of the solid film.